

a disturbance into the life cycle and a reduction division of some kind became an inevitable accompaniment. The places at which a reduction division might, theoretically, become established in the life cycle are presented in diagram and described. A comparison between the life cycles of plants and animals is also illustrated by a diagram. SCHAFFNER believes that in the higher animals the condition appears to be similar to that found in *Fucus*.

The significance of a transverse division of chromosomes in interpreting the phenomena of MENDEL'S law is illustrated and discussed.—CHARLES J. CHAMBERLAIN.

Migration of salts.—In an extensive investigation of the content of nitrogen, phosphoric acid, sodium, and potassium in cultivated plants, both field and pot grown, at different periods of their development, it has been found²⁹ that in different plants the maximum absorption is completed at different periods, barley, spring wheat, peas, and mustard attaining this maximum at flowering, while potatoes reach it at maturity. These substances do not remain at a maximum, but in the plants other than potatoes and with the exception of phosphoric acid, migrate back, in great part, to the soil; this seems to depend on the amount of a given substance available, being greater when, say, potassium is lacking than if the appropriate materials are all supplied.—C. R. B.

Anatomy and affinity.—Another observer, SARTON, has attempted to ascertain how much help is to be had from histology in determining the validity of Jordanian species as contrasted with Linnean.³⁰ He studied allied plants, submitted them to cultivation under diverse conditions and then examined their structure. In some cases there were constant anatomical characters distinguishing apparently closely allied forms. On the other hand the characters were as often elusive and evidently directly adaptive. Plants long cultivated in the Jardin des Plantes and at Fontainebleau showed no anatomical differences from wild ones of the same species. Nor were there differences between the varieties having different colored flowers.—C. R. B.

Scotch moors.—The succession of plants in the moors of the Scottish southern uplands has been studied by LEWIS.³¹ He finds that in all the localities visited the peat "shows a definite stratification of plant remains, indicating a swing from woodland to heath and moss, and again to woodland. In some districts, an arctic plant-bed is interposed between the lower and upper woodland-beds." The-vegetation changes are probably correlated with climatic changes at the

²⁹ WILFARTH, H., RÖMER, H., and WIMMER, G., Ueber die Nährstoffaufnahme der Pflanzen in verschiedenen Zeiten ihres Wachstums. Landw. Versuchsstat. 63: 1-70. pls. 3. 1905.

³⁰ SARTON, A., Recherches expérimentales sur l'anatomie des plantes affines. Ann. Sci. Nat. Bot. IX. 2: 1-115. pls. 14. 1905.

³¹ LEWIS, F. J., The plant remains in the Scottish peat mosses. Pt. I. The Scottish southern uplands. Trans. Roy. Soc. Edin. 41³:699-722. 1905.